

WSE GF-02  
2545 ✓  
4015  
SEP 7 1984

3400 Forest Pest Management

## Functional Assistance Trip To Zigzag Ranger District

Forest Supervisor, Mt. Hood NF

On August 24, Gregory M. Filip, Plant Pathologist from Forest Pest Management at the Regional Office, visited the Zigzag Ranger District. Purpose of the visit was to examine several areas with pest-related problems. He was accompanied by Dave Hankin from the District.

While driving along Highway 26 east of Government Camp, defoliation caused by Zeiraphera moth (Zeiraphera sp), western blackheaded budworm (Acleris gloverana), and western spruce budworm (Choristoneura occidentalis) was observed in Douglas-fir, hemlock, noble fir, and Pacific silver fir. Defoliation caused by spruce budworm was observed last year on the Barlow and Bear Springs Districts, but this is the first year that defoliation has been observed on the Zigzag RD. Only after several years of defoliation will top-kill or possibly tree mortality occur. We recommend that the District continue to monitor the incidence of defoliation for possible future control considerations.

The District is concerned about the leader mortality they are experiencing in a mixed-species plantation near Mud Creek. Most of the damage occurs in Douglas-fir, but some was seen in lodgepole pine and true fir also. The plantation is about 20 years old and recently has been thinned and fertilized. Site class is a low IV, and hemlock and cedar comprise most of the surrounding old-growth stand.

Some of the leaders have been clipped by either birds or animals. Other leaders have died and broken off, leaving a pinched and ragged end. Possible cause of this second type of leader damage is micronutrient deficiencies, especially boron. Recent research from British Columbia suggests that leader damage is common in Douglas-fir growing on nitrogen-rich but boron-deficient soils within hemlock-cedar ecotypes. Forest Pest Management pathologists plan to sample several plantations this fall on the Olympic National Forest that are experiencing leader abnormalities. Results of this evaluation may be useful to other Forests, such as the Mt. Hood, with similar problems in Douglas-fir.

Another noble fir/silver fir plantation was examined in the Lolo Pass area on the District. Several trees were infected with the fungus Pucciniastrum epilobii, cause of fir-fireweed rust or P. goeppertianum, cause of fir-blueberry rust. Both diseases cause similar damage on true firs, primarily needle death and, very rarely, some growth loss in severe cases. Damage to fir fluctuates from year to year, increasing with abundance and proximity of the alternate host and favorable climate during the infection period in spring. Both

diseases require alternate hosts to complete their life cycles: fir-fireweed rust causes a yellow-brown leaf spot or blight on fireweed (Epilobium sp.) and fir-blueberry rust causes a witches'-broom on blueberry (Vaccinium sp.). Neither of these diseases is of any consequence, except to Christmas tree growers.

If FPM can be of further assistance, please contact us.

PAUL E. BUFFAM

PAUL E. BUFFAM  
Director of Forest Pest Management

cc:  
Dave Hankin, Zigzag RD

GMFilip:lmc Document 3420E 9/6/84